World Academy of Science, Engineering and Technology
International Journal of Educational and Pedagogical Sciences
Vol:8, No:07, 2014

Improving Mathematics and Engineering Interest through Programming

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Abstract : In an attempt to address shortcomings revealed in international assessments and lamented in legislation, many schools are reducing or eliminating elective courses, applying the rationale that replacing "non-essential" subjects with core subjects, such as mathematics and language arts, will better position students in the global market. However, there is evidence that systematically pairing a core subject with another complementary subject may lead to greater overall learning in both subjects. In this paper, we outline the methods and preliminary findings from a study we conducted analyzing the influence learning programming has on student mathematical comprehension and ability. The purpose of this research is to demonstrate in what ways two subjects might complement each other, and to better understand the principles and conditions that encourage what we call lateral transfer, the synergistic effect that occurs when a learner studies two complementary subjects.

Keywords : programming, engineering, technology, complementary subjects
Conference Title : ICEEE 2014 : International Conference on Education and Educational Engineering
Conference Location : Paris, France
Conference Dates : July 21-22, 2014